Rodrigo S Targino

Curriculum Vitae
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School of Applied Mathematics (EMAp),
Getulio Vargas Foundation (FGV),
Rio de Janeiro, RJ, Brazil.
rtargino.netlify.app
rodrigo.targino@fgv.br

Education

2012	2017	PhD in Statistics	University College London (UCL)	London, UK
2008	2010	MSc in Statistics	Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil
2004	2007	BSc in Applied Mathematics	Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil

Employment

2017		**Assistant Professor**, School of Applied Mathematics (EMAp), Getulio Vargas Foundation (FGV)	Rio de Janeiro, Brazil
2022	2023	**Visiting Associate Professor**, Department of Statistics and Applied Probability, University of California, Santa Barbara (UCSB)	Santa Barbara, CA, USA
2011	2012	**Market Risk Analyst**, Credit Suisse Hedging Griffo	São Paulo, Brazil
2010	2011	**Credit Risk Analyst**, Itaú-Unibanco Bank	São Paulo, Brazil

Grants

2023	2023	Research in Options 2023*	Events - FAPERJ
2022	2023	Multi-population mortality modelling and pension risk management	Bolsa Esp Exter - CNPq
2022	2025	Construction and risk management of financial portfolios in high dimensions using approximated inference	JCNE - FAPERJ
2022	2022	Topic modelling in news articles: an example from Brazil	MAPS Visiting Fellowship - UCL
2021	2023	Construction and risk management of financial portfolios in high dimensions using approximated inference	APQ - FAPERJ
2020	2022	Encrypted Machine Learning: Applications in Actuarial Sciences and Beyond	ARC - FAPERJ
2019	2021	A novel framework for semi-automatic text classification	FGV EMAp
2019	2019	2nd Financial Mathematics Team Challenge - Brazil*	FGV EMAp
2018	2018	1st Financial Mathematics Team Challenge - Brazil*	FGV EMAp
2018	2018	1st Financial Mathematics Team Challenge - Brazil*	PAEP - CAPES
2017	2019	Improvements of the Brazilian economic uncertainty index	FGV Applied Research Grant
2017	2018	Development of a price index for car insurance in Brazil	FGV Applied Research Grant

(*) event organization

Awards

2023 Supervisor of SBMAC's best undergraduate project
2022 CNPq Postdoc scholarship
2017 Mentor of the winning team of the 4th FMTC
2014 Australia Awards Endeavour Fellowship
2012 CSIRO Top-up travel bursary
2012 CNPq PhD scholarship
2008 CAPES Masters scholarship
2006 CNPq Scientific Initiation scholarship

Teaching experience

2023	2023	BSc	UCSB	Regression Analysis
2022	2023	BSc	UCSB	Introduction to Bayesian Data Analysis
2017	2018	BSc	FGV	Probability
2017	2018	BSc	FGV	Statistics
2017	2021*	MSc	IMPA	Statistics and Econometrics
2018	2019	MSc	FGV	Statistics
2019	2022*	BSc	FGV	Machine Learning
2019	2022	MSc	FGV	Probability
2020	2022	MSc/PhD	FGV	Machine Learning
2020	2020	BSc	FGV	Statistics and Econometrics

(*) excluding 2018

Academic supervisions

PhD

MSc

2023		Leandro Guilheiro	IMPA	TBD
2022	2023	André Lorenzo Bittencourt	IMPA	Optimal Investment-Consumption Decision Using Reinforcement Learning
2020	2021	Luiz Fernando G. N. Maia	FGV	Modelos in-play para partidas do Campeonato Brasileiro de Futebol
2019	2023	Hugo Barreto	FGV	Estimating Risk Measures of multiple Portfolio Optimization Strategies
2019		Christiano Lo Bianco Clementino	IMPA	TBD
2019	2020	Pedro Medeiros Teixeira	FGV	Identification of causal effects: a methodological review
2019	2020	Marcelo Orgler	FGV	Multivariate loss reserving using factor copulas
2018	2019	Lucas Paiva de Carvalho	IMPA	Pricing interest rate derivatives under monetary changes
2018	2019	João Marcos Amorim dos Santos	FGV	Previsões de Resultados em Partidas do Campeonato Brasileiro de Futebol
2018	2019	Yuri Resende Fonseca*	IMPA	Tree Based Model for Estimating the Local Volatility Surface
2017	2018	Renan Lima Novais*	FGV	Estudo de aplicações de Processos Gaussianos na predição de valor de oferta de venda de apartamentos

BSc

2023	2023	Victor Bombarda	FGV	Inferência Bayesiana em Processos Gaussianos
2022	2023	Rener de Souza Oliveira	FGV	A Survey On Fully Homomorphic Encryption With Statistical Applications
2021	2021	Denner da Silva Santos	FGV	Estudo do filtro de Kalman para modelos dinâmicos lineares
2021	2021	Vitoria Mesquita Leite	FGV	Estudo da utilização de redes neurais recorrentes para geração de manchetes
2019	2020	Matheus Borghi	FGV	Impacto da sensibilidade a variáveis Macroeconômicas no Risco de Crédito Corporativo Norte-americano
2017	2017	Paulo de Tarso Silva Santos*	FGV	Modelos de previsão do resultado de atas do Copom baseados em processamento de linguagem natural e curvas de ativos financeiros
2016	2016	Helder Rezende*	FGV	O Cálculo do VaR usando Modelos de Volatilidade

(*) Second supervisor

Editorial activity

2021	Associate Editor	Brazilian Finance Review (RBFin)

Refereeing services

Journals

Risks, Journal of Risk and Financial Management, Computation and Applied Mathematics, Brazilian Review of Econometrics, ASTIN Bulletin, Journal of Banking and Finance, Sustainability, Quantitative Finance, Revista Contabilidade & Finanças, Brazilian Review of Finance, International Journal of Forecasting, Applied Stochastic Models in Business and Industry, Computational Statistics, Annals of Actuarial Science, European Actuarial Journal, Variance, Methodology and Computing in Applied Probability, Annals of Operations Research

Funding agencies

Natural Sciences and Engineering Research Council of Canada, Czech Science Foundation

Research visits

2022	Ioanna Manolopoulou	UCL, UK
2019	Samuel Livingstone	UCL, UK
2019	Emmanuel Gobet	École Polytechnique, France
2014	Pavel Shevchenko	CSIRO, Australia
2014	Mario Wuthrich	ETH, Switzerland
2013	Pavel Shevchenko	CSIRO, Australia

Publications

Refereed research papers

1. Costa, B. F. P. da, Pesenti, S., & Targino, R. S. (2023). Risk budgeting portfolios from simulations. *European Journal of Operational Research*, *311*, 1040–1056. https://doi.org/10.1016/j.ejor.2023.06.003

2. Benezet, C., Gobet, E., & Targino, R. S. (2023). Transform MCMC schemes for sampling intractable factor copula models. *Methodology and Computing in Applied Probability*, *25*. https://doi.org/10.1007/s11009-023-09983-4
3. Koike, T., Saporito, Y. F., & Targino, R. S. (2022). Avoiding zero probability events when computing value at risk contributions. *Insurance: Mathematics and Economics*, *106*, 173–192. https://doi.org/https://doi.org/10.1016/j.insmatheco.2022.06.004
4. Nieto-Barajas, L. E., & Targino, R. S. (2021). A gamma moving average process for modelling dependence across development years in run-off triangles. *ASTIN Bulletin: The Journal of the IAA*, *51*(4), 245–266. https://doi.org/http://doi.org/10.1017/asb.2020.36
5. Merkle, M., Saporito, Y. F., & Targino, R. S. (2020). Bayesian approach for parameter estimation of continuous-time stochastic volatility models using fourier transform methods. *Statistics & Probability Letters*, *156*, 108600. https://doi.org/https://doi.org/10.1016/j.spl.2019.108600
6. Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. *Risks*, *5*(4), 53. https://doi.org/https://doi.org/10.3390/risks5040053
7. Targino, R. S., Peters, G. W., Sofronov, G., & Shevchenko, P. V. (2017). Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*, *19*(2), 487–518. https://doi.org/http://dx.doi.org/10.1007/s11009-016-9493-8
8. Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Full bayesian analysis of claims reserving uncertainty. *Insurance: Mathematics and Economics*, *73*, 41–53. https://doi.org/http://dx.doi.org/10.1016/j.insmatheco.2016.12.007
9. Targino, R. S., Peters, G. W., & Shevchenko, P. V. (2015). Sequential monte carlo samplers for capital allocation under copula-dependent risk models. *Insurance: Mathematics and Economics*, *61*, 206–226. https://doi.org/https://doi.org/10.1016/j.insmatheco.2015.01.007
10. Peters, G. W., Targino, R. S., & Shevchenko, P. V. (2013). Understanding operational risk capital approximations: First and second orders. *The Journal of Governance and Regulation*, *2*(3). https://doi.org/https://doi.org/10.22495/jgr_v2_i3_p6

Working papers under revision or review

1. Maia, L. F. G. N., Pennanen, T., Silva, M. A. H. B. da, & Targino, R. S. (2023). *Stochastic modelling of football matches*. https://arxiv.org/abs/2312.04338
2. Graziadei, H., Marques F., P. C., Melo, E. F. L. de, & Targino, R. S. (2023). *Conformal prediction for frequency-severity modeling*. https://arxiv.org/abs/2307.13124
3. Jaimungal, S., Pesenti, S., Saporito, Y., & Targino, R. S. (2023). *Risk budgeting allocation for dynamic risk measures*. https://ssrn.com/abstract=4452742
4. Evangelista, D., Saporito, Y. F., & Targino, R. S. (2021). *Uma análise do risco de fundos de ações brasileiros em 2020*. https://papers.ssrn.com/abstract=3825680
5. Duarte, D., Saporito, Y. F., & Targino, R. S. (2018). *The impact of the freedom of the press on risk*. https://dx.doi.org/10.2139/ssrn.3218754

Academic presentations

1. Risk budgeting portfolios from simulations. (2023). *Escola de Séries Temporais, Florianópolis, Brazil*. https://www.dropbox.com/s/6lhsecdr5udtjzj/risk_parity.pdf?dl=0
2. Avoiding zero probability events when computing value at risk contributions. (2023). *SIAM Financial Mathematics 2023, Philadelphia, USA*. https://www.dropbox.com/s/f3p11iquw0i4b6m/slides_Euler_Malliavin.pdf?dl=0
3. Risk budgeting portfolios from simulations. (2023). *Financial and Actuarial Mathematics (FAM) Seminar, UCLA*. https://www.dropbox.com/s/dxk2ni9n8q43tlg/risk_parity.pdf?dl=0
4. Transform MCMC schemes for sampling intractable factor copula models. (2023). *School of Mathematical and Statistical Sciences, ASU*. https://www.dropbox.com/s/9nzdzxbplwml8sb/Slides-Targino.pdf?dl=0
5. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistics and Applied Probability (PSTAT), UCSB*. https://www.dropbox.com/s/603yuetkg9sodjr/Slides-Targino.pdf?dl=0
6. Risk budgeting portfolios from simulations. (2022). *Duncan Chair Actuarial Science Research Day, UCSB*. https://www.dropbox.com/s/xomrmvececbwovu/risk_parity.pdf?dl=0
7. Risk budgeting portfolios from simulations. (2022). *Research in Options (RiO), Rio de Janeiro, Brazil*. https://www.dropbox.com/s/sq092ax1xb0pqg9/risk_parity.pdf?dl=0
8. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistical Sciences, UCL, London, UK*. https://www.dropbox.com/s/11ga78rfh19xrl6/Slides-Targino.pdf?dl=0
9. Transform MCMC schemes for sampling intractable factor copula models. (2022). *Department of Statistical Sciences, UFRJ, Rio de Janeiro, Brazil*. https://www.dropbox.com/s/uxm6x4mnfcnq0i4/Slides-Targino.pdf?dl=0

10. Risk budgeting portfolios from simulations. (2021). *Data Science and Quantitative Strategies Reading Group (Itaú-Unibanco)*. https://www.dropbox.com/s/5kzzbouwped2yaj/20211111.pdf?dl=0
11. Avoiding zero probability events when computing value at risk allocations. (2021). *24th International Congress on Insurance: Mathematics and Economics*. https://www.dropbox.com/s/junsmax00j4nfoj/slides_Euler_Malliavin.pdf?dl=0
12. Risk budgeting portfolios from simulations. (2021). *3rd Insurance Data Science Conference*. https://www.dropbox.com/s/czqfnqsu9hlwwf9/20210616_short.pdf?dl=0
13. Transform MCMC schemes for sampling intractable factor copula models. (2021). *RESIM 2021 : 13th International Workshop on Rare-Event Simulation*. https://www.dropbox.com/s/7bphf9w4h5wobdd/Slides-Targino_RESIM-May2021.pdf?dl=0
14. The economic uncertainty index: The brazilian case, its relations with the freedom of the press and new estimation methods. (2020). *School of Economics USP-RP*. https://www.dropbox.com/s/iz7w495qe5xknpz/slides_FOTP.pdf?dl=0
15. Round table on the job market for data scientistis. (2020). *3ª Semana Da Engenharia Matemática e Matemática Aplicada Da UFRJ*. https://youtu.be/ennu0cEwbLI?t=27639
16. Avoiding zero probability events when computing value at risk allocations. (2020). *One World Actuarial Research Seminar (OWARS)*. https://www.dropbox.com/s/qvas8cglqn8s16l/slides_Euler_Malliavin.pdf?dl=0
17. Understanding economic policy uncertainty index using semi-automatic news classification. (2020). *Encontro Brasileiro de Estatística Bayesiana (EBEB)*, *Maresias*, *Brazil*. https://www.dropbox.com/s/lvvb6wvs230o8n9/EPU_particle_filters.pdf?dl=0
18. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *École Polytechnique*, *Paris*, *France*. https://www.dropbox.com/s/1fujxpi3it6r09j/EPU_particle_filters.pdf?dl=0
19. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *4th International Workshop in Financial Econometrics**, *Maceió*, *Brazil*.
20. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Escola de Séries Temporais e Econometria*, *Gramado*, *Brazil*.
21. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Workshop on Stochastic Simulation Methods in Statistics*, *Rio de Janeiro*, *Brazil*.
22. Understanding economic policy uncertainty index using semi-automatic news classification. (2019). *Universidade Federal de Santa Catarina (UFSC)*, *Florianópolis*, *Brazil*.
23. The impact of the freedom of the press on risk. (2019). *SIAM Conference on Financial Mathematics & Engineering*, *Toronto*, *Canada*. https://www.dropbox.com/s/u77t1n25hk3rqop/News.pdf?dl=0
24. The impact of the freedom of the press on risk. (2019). *Universidade Federal Do Rio de Janeiro (UFRJ)*, *Rio de Janeiro*, *Brazil*.
25. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2019). *3rd International Congress on Actuarial Science and Quantitative Finance*, *Manizales*, *Colombia*. https://www.dropbox.com/s/zzq149agokfgqkj/RiskMargin.pdf?dl=0
26. Prediction of the volatility surface with generalized autoregressive score (GAS) models. (2018). *Congresso Nacional de Matemática Aplicada e Computacional (CNMAC)*, *Campinas*, *Brazil*.
27. The impact of the freedom of the press on risk. (2018). *33 Foro Nacional de Estadística (FNE) y 13 Congreso Latinoamericano de Sociedades de Estadística (CLATSE)*, *Guadalajara*, *Mexico*. https://www.dropbox.com/s/34rp3qqhnk8iitp/slides_FOTP.pdf?dl=0
28. The impact of the freedom of the press on risk. (2018). *Workshop in Econometrics*, *São Paulo*, *Brazil*.
29. Efficient monte carlo algorithms for risk allocation. (2018). *Research in Options (RiO)*, *Rio de Janeiro*, *Brazil*. https://www.youtube.com/watch?v=xm0is0DxSoE
30. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2018). *Simpósio Nacional de Probabilidade e Estatística*, *São Pedro*, *Brazil*.
31. Realistic risk parity portfolios. (2017). *3rd International Workshop in Financial Econometrics**, *Arraial d'Ajuda*, *Brazil*.
32. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *31st Brazilian Mathematical Colloquium*, *Rio de Janeiro*, *Brazil*.
33. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *UCT - Mid-Challenge Workshop in Financial Mathematics*, *Cape Town*, *South Africa*.
34. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *Universidade Federal Do Rio de Janeiro (UFRJ)*, *Rio de Janeiro*, *Brazil*.

35. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2017). *Instituto Nacional de Matemática Pura e Aplicada*, *Rio de Janeiro*, *Brazil*.
36. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *3rd Workshop on Assessment of Risk (WAR)**, *São Paulo*, *Brazil*.
37. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Research in Options (RiO)*, *Rio de Janeiro*, *Brazil*. https://www.youtube.com/watch?v=toqA3_v8Kfs&t=3961s
38. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Fundação Getulio Vargas*, *Rio de Janeiro*, *Brazil*.
39. Bayesian modelling, monte carlo sampling and capital allocation of insurance risks. (2016). *Cass Business School*, *London*, *United Kingdom*.
40. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Christmas Workshop on Sequential Monte Carlo and Related Methods*, *London*, *UK*.
41. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Sequential Monte Carlo Workshop**, *Paris*, *France*.
42. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Congress on Insurance: Mathematics and Economics*, *Liverpool*, *UK*.
43. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2015). *Universidade Federal Do Rio de Janeiro (UFRJ)*, *Rio de Janeiro*, *Brazil*.
44. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *University of New South Wales (UNSW)*, *Sydney*, *Australia*.
45. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *Research Students Conference*, *Nottingham*, *United Kingdom*.
46. Sequential monte carlo samplers for capital allocation under copula-dependent risk models. (2014). *Monte Carlo and Quasi Monte Carlo (MCQMC)*, *Leuven*, *Belgium*.
47. Optimal exercise strategies for operational risk insurance via multiple optimal stopping times. (2013). *Universidade Federal Do Rio de Janeiro (UFRJ)*, *Rio de Janeiro*, *Brazil*.
48. (2013). *CFE-ERCIM*, *London*, *United Kingdom*.
49. (2013). *Macquarie University*, *Sydney*, *Australia*.
50. Hedging in incomplete markets using fourier series method. (2009). *Research In Options**, *Búzios*, *Brazil*.
51. Applications of the fractional brownian motion in finance. (2009). *XIII Brazilian School of Probability**, *Maresias*, *Brazil*.
52. Estimation of the parameters of the heston model by fourier series method. (2009). *13a Escola de Séries Temporais e Econometria*, *São Carlos*, *Brazil*.
53. Calibration of the heston model by fourier series method. (2009). *Fourth Brazilian Conference on Statistical Modelling in Insurance and Finance*, *Maresias*, *Brazil*.
54. Bayesian selection for heston models with volatilities determined by fourier series method. (2008). *Research In Options (RiO)**, *Angra Dos Reis*, *Brazil*.

(*) Poster presentations.